

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EXHIBIT A

Excerpts from

The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition

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IEEE 100
The Authoritative Dictionary of
IEEE Standards Terms

Seventh Edition



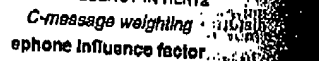
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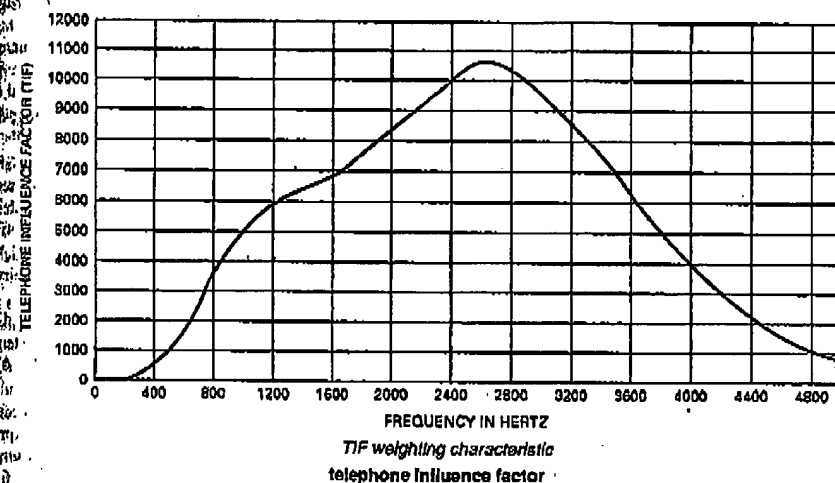
telephone operator

TIF of a voltage or current wave is the square root of the sum of the squares (rss) of the rms (rms) values of all the sine waves in ac waves both fundamental and harmonic. The rms value (unweighted) of a sine wave is derived from listening tests. The relative annoyance of speech impairment is a function of frequency f as heard through a telephone set. The result, called the relative annoyance factor, is shown in graphical and tabular form on page 10 of relative interference.



PAGE 14/14 * RCVD AT 12/19/2003

1980 SINGLE FREQUENCY TIF VALUES							
FREQ	TIF	FREQ	TIF	FREQ	TIF	FREQ	TIF
180	0.6	1020	6100	1860	7820	3000	9670
190	90	1080	5400	1880	8330	3180	8740
200	225	1140	5630	2100	8830	3300	8090
250	480	1260	6050	2160	9030	3540	6730
300	850	1380	6370	2220	9330	3660	6190
350	1320	1440	6650	2340	9840	3900	4400



$$2(X_j - W_j)^2$$

$$\sum \left(\frac{X_i \cdot W_i}{X_i} \right)^2$$

the single-frequency TIF weighting at frequency f .
The TIF contribution of power-circuit voltage or current at frequency f may be expressed as follows:

11/11/11

The TIP weighting characteristic represents the relative effect of a voltage or current in a supply circuit at any f . The weighting takes into account the relative effect of frequency f as heard through a telephone (with the c -message weighting) and the coupling between power and telephone circuit, assumed to be directly proportional to frequency. It is defined as

constant
the α -message weighting at frequency f
the frequency under consideration.

50: TIF weighting characteristic is shown in the cor-
 51: responding figure.

(COM/TA) 469-1988w
per and distribution transformers) Of a voltage or
wave in an electric supply circuit, the ratio of the
root of the sum of the squares of the weighted root-
square values of all the sine-wave components (includ-

1980 SINGLE FREQUENCY TIF VALUES							
FREQ	TIF	FREQ	TIF	FREQ	TIF	FREQ	TIF
680	2280	1500	6680	2480	10340	4020	37000
720	2760	1820	6970	2680	10680	4280	27500
760	3360	1740	7320	2820	10210	4880	21800
900	4350	1800	7570	2840	8820	5000	8400
1000	8000						

entire wave. *Note:* This factor was formerly known as telephone interference factor, which term is still used occasionally when referring to values based on the original (1919) weighting curve. (PE/TR) C57.12.80-1978r

(5) For a voltage or current wave in an electric supply circuit, the ratio of the square root of the sum of the squares of the weighted root-mean-square values of all the sine-wave components (including alternating current waves both fundamental and harmonic) to the root-mean-square value (unweighted) of the entire wave. (IA/SPC) 519-1992

telephone line (data transmission) A general term used in communication practice in several different senses, the more important of which are:

- The conductor or conductors and supporting or containing structures extending between telephonic stations and central offices or between central offices whether they be in the same or in different communities.
- The conductors and circuit apparatus associated with a particular communication channel.

(PE) 599-1985w

telephone modal distance The distance between the center of the grid of a telephone handset transmitter and the center of the lips of a human talker (or the reference point of an artificial mouth) when the handset is in the modal position. See also: telephone station. (COM/TA) 269-1971-w. [30]

telephone modal position The position a telephone handset assumes when the receiver of the handset is held in close contact with the ear of a person with head dimensions that are modal for a population. *See also:* telephone station. (COM) [50]

telephone network A telecommunication network primarily intended for telephony. (COM/TA) 823-1989w

telephone operator A person who handles switching and signaling operations needed to establish telephone connections